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PATENT ABSTRACTS OF JAPAN

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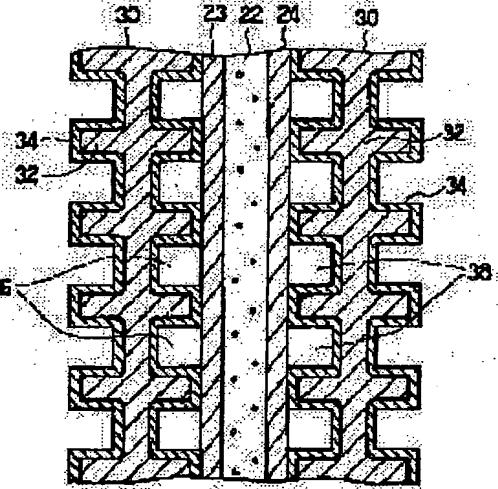
(21)Application number : 11-129517 (71)Applicant : TOYOTA MOTOR CORP
 (22)Date of filing : 11.05.1999 (72)Inventor : HAYASHI HITOSHI

(54) SEPARATOR FOR FUEL CELL AND MANUFACTURE THEREOF

(57)Abstract:

PROBLEM TO BE SOLVED: To provide separator for fuel cell having sufficient electrical conductivity and strength, and easily manufacture the separator at a low cost.

SOLUTION: This separator 30 is formed of a core layer part 32 made of a resin having a little carbon content, and an outer layer part 34 made of a resin having a large carbon content and formed so as to cover the outer surface of the core layer part 32. The separator 30 can secure high electrical conductivity at the outer layer part 34 having a large carbon content, and physical strength at the core layer part 32 having a little carbon content. The separator 30 is formed by the double-layer forming technology for injection molding with the resin having a little carbon content first, and thereafter, opening a die a little, and injection molding with the resin having a large carbon content. A boundary between the two resins is unified with each other by compatibility.



LEGAL STATUS

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1.This document has been translated by computer. So the translation may not reflect the original precisely.

2.**** shows the word which can not be translated.

3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The separator for fuel cells which is a separator for fuel cells formed with the resin containing the minute member formed with the conductive ingredient, and forms and becomes so that many said minute members to an outside surface may contain as compared with the interior.

[Claim 2] It is the separator for fuel cells in which it comes to form said outside surface with the resin which contains said minute member 10% or more by being a separator for fuel cells according to claim 1, and forming said interior with 0 thru/or the resin contained 10% in said minute member.

[Claim 3] Said outside surface is a separator for fuel cells according to claim 2 which it comes to form with the resin which contains said minute member 20% or more.

[Claim 4] There is no claim 1 which is a carbon particle, and said minute member is a separator for the fuel cells of a publication 3 either.

[Claim 5] There is no claim 1 which is a carbon staple fiber, and said minute member is a separator for the fuel cells of a publication 3 either.

[Claim 6] There is no claim 1 which it comes to form with a metallic material, and said minute member is a separator for the fuel cells of a publication 3 either.

[Claim 7] It is the manufacture approach of the separator for fuel cells formed with the resin containing the minute member formed with the conductive ingredient. The 1st injection-molding process which carries out injection molding of the resin with few contents of this minute member to a mold among two kinds of resin with which the contents of said minute member differ. The manufacture approach of the separator equipped with the 2nd injection-molding process which carries out injection molding of the resin with many contents for said mold to a specified quantity aperture and this specified quantity **** type among said two kinds of resin in the condition that this resin by which injection molding was carried out exists in the interior for fuel cells.

[Claim 8] It is the manufacture approach of the separator for fuel cells formed with the resin containing the minute member formed with the conductive ingredient. The resin preparation process of preparing the resin which is these two classes so that a fluidity may become high as compared with the resin of another side about resin with many contents of this minute member among two kinds of resin with which the contents of said minute member differ. The manufacture approach of the separator equipped with the 1st injection-molding process which carries out injection molding of the high resin of said fluidity to a mold, and the 2nd injection-molding process which carries out injection molding of the resin of said another side to this mold by which injection molding was carried out for fuel cells.

[Claim 9] Said minute member is the manufacture approach of the separator for fuel cells according to claim 7 or 8 which is a carbon particle.

[Claim 10] Said minute member is the manufacture approach of the separator for fuel cells according to claim 7 or 8 which is a carbon staple fiber.

[Claim 11] Said minute member is the manufacture approach of the separator for fuel cells according to claim 7 or 8 which it comes to form with a metallic material.

[Translation done.]